FARMLINE

United States Department of Agriculture

Economics, Statistics, and Cooperatives Service

Volume I
Number 2
May 1980

The Amazing Sunflower

China Connection

Crop Report Scoreboard

pec
338.105
F229
v 1
#2

page 8
A Fair Return?

Executive Editor:
Daniel R. Williamson
(202) 447-8302

Managing Editor:
Eric Van Chantfort
(202) 447-8302

Contributors:
Leland Scott
Kent Miller
Barry Murray
William Gordon
Shirley Hammond

Design:
Deborah Shelton

Layout:
Carolyn Fletcher
Linda Zelder

Contents of this magazine may be reprinted without permission.
Farmline is published 11 times a year by USDA's Economics, Statistics, and Cooperatives Service.

Subscription price $10 a year ($12.50 foreign). Order from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Ask for *Farmline* and make your check payable to Superintendent of Documents. Address single copy requests and editorial correspondence to *Farmline*, Room 505 GHI Bldg., ESCS, USDA, Washington, D.C. 20250.

The Secretary of Agriculture has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Use of funds for printing this publication has been approved by the Director of the Office of Management and Budget through January 1, 1981.

Use of commercial or trade names does not imply approval or constitute endorsement by USDA or ESCS.

Perspectives

Last year's large marketings and higher farm prices--for both crops and livestock--boosted net farm income to around 1973's record $33.3 billion, up almost a fifth from 1978. Farmland and other asset values also jumped sharply. Gains were widely shared across the farm sector.

But even though many farmers entered the new decade in relatively favorable financial shape, 1980 is becoming a very difficult year. USDA's March index of prices received by farmers was the lowest in 15 months. The credit crunch, rising costs of production, and the financial squeeze in livestock are taking their toll. More than ever, the farm sector is enmeshed in the problems of the general economy. Still, exports remain at record levels, and the government is acting to shore up farm prices and provide credit help.

Credit: paying more for less . . . interest rates are record high and rising, while lenders are tightening the purse strings. Many farmers are already pushing against credit ceilings. Financing is generally available for normal farm operations, but new outlays for land or equipment are being discouraged. Positive notes: Recent restrictions on consumer credit may free some funds for agricultural lending. Also, more federal help seems likely.

Costs of farming outpacing earnings . . . 1980 costs of production may jump about 13%, with fuel, fertilizer, and interest expenses going much higher. This rise trails last year's 16%, but 1980 cash receipts won't keep up--livestock receipts may rise only 1%-3%, crop receipts 5%-7%. So, net farm income may sag to the mid-$20-billions. Hardest hit will be livestock producers--cattle feeders, hog producers, poultry contractors. Soybean growers, too. Grain, dairy, cow-calf, and sheep producers will do better.

Meanwhile, exports continue strong . . . both volume and value records are forecast. Value is likely to hit about $37 billion this fiscal year, up from last year's $32 billion. Increased shipments to Mexico, Brazil, China, and Spain will help offset suspended sales to the Soviets.

And CCC's buying up wheat and corn . . . to offset the impact of the grain cutoff and bolster farm prices where needed most. Purchases will continue until the grain removed from the market about matches the amount barred from the Soviets. USDA may also open the farmer-owned reserve to let farmers who didn't participate last year put in a limited amount of 1979-crop corn (if eligible farmers don't add enough corn to the reserve to boost prices).

FARMLINE

Volume I
Number 2

May 1980

FEATURES

The Amazing Sunflower 4

Not long ago, it was mostly for the birds, but now the bright, cheery face of the sunflower is drawing flocks of American farmers in a major challenge to other oilseeds.

Face To Face 7

Top agency officials go on the road to find out what information farmers and others in agriculture need most and how ESCS can help.

A Fair Return For U.S. Farmers? 8

A hard look at farm—and off-farm—income trends may produce some surprises for farmers and policymakers alike.

Crop Reporting Board Calendar 12

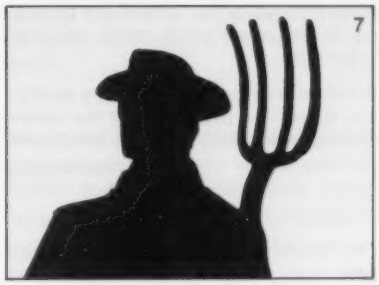
This provocative centerfold has 8 months of revealing crop and livestock reports.

Strengthening The China Connection 14

The world's most populous nation is well on its way to becoming one of the top 10 export markets for U.S. farm products.

Crop Report Scoreboard: Calling It Close 18

One hundred percent accuracy may never be possible, but crop forecasting is still the best way to keep farmers informed and markets efficient.



DEPARTMENTS

Perspectives 2
Agricultural Roundup 11
World Update 14
Commodities 16
Off Press 21
Farmline Trends 22

The Amazing Sunflower

Sunflower yields of 3,000 pounds per acre? Seed with an oil content of 60 percent or more?

When compared with the present national average yield of 1,350 pounds per acre and seed oil content of roughly 40 percent, these figures may look like a pipe dream. But they're not.

In 1979, test plots of new experimental hybrids yielded as much as 3,000 pounds of sunflower seed per acre. And researchers have developed lines of inbred sunflower with an oil content surpassing 60 percent—a significant breakthrough since, pound for pound, oil is the sunflower's most valuable byproduct.

Although not yet commercially available, these new hybrids—and the possibility of even better ones in the future—promise to fuel the expansion in sunflower production that the first hybrid triggered on its release in 1972.

The impact of that first hybrid so far has been staggering. Based on discoveries by a French researcher and a USDA plant breeder, it immediately increased sunflower yields by 25 percent, making oilseed sunflower much more attractive as a cash crop.

Between 1974 and 1979, the acreage planted to oilseed sunflower skyrocketed from around 400,000 to 5.6 million acres. Production grew from less than 400 million to nearly 8 billion pounds during the same 5-year period.

In 1977, the year that most producers shifted from the old open-pollinated oilseed sunflower to hybrids, acreage more than doubled from 1976 to 2.2 million acres, production more than tripled to 2.6 billion pounds, and average yields leaped from 974 to 1,242 pounds per acre.

Since then, statistics on oilseed sunflower seem to be accompanied by imaginary exclamation marks. In 1979, for example, production rose from a little under 4 billion pounds to nearly 8 billion, while acreage doubled from 2.8 to 5.6 million acres.

Behind The Expansion

Of course, while the hybrid sunflower was a major impetus behind this expansion, other factors were also involved.

The rising demand for vegetable oil and protein in the 1970's created a favorable price situation for U.S. oilseeds. Soybeans were the main beneficiary of this increased demand, but many farmers in the northern producing states—unable to grow soybeans profitably because of the climate—turned to sunflower.

In addition, Europe proved to be a ready market for U.S. sunflower seed, so farmers had no difficulty selling their product. Further, crushing capacity for sunflower became available in the northern U.S. as flaxseed production declined, and excess capacity already existed in some cottonseed processing facilities in the South.

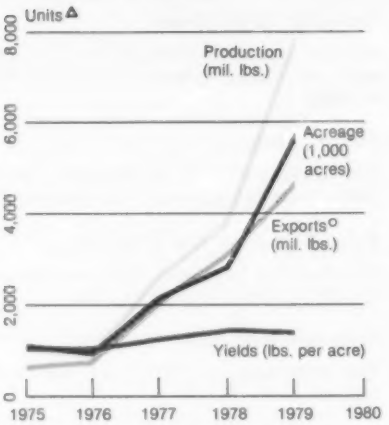
So when the hybrid sunflower entered the scene, U.S. farmers—especially those in North Dakota and Minnesota—saw a profitable market ready to be tapped.

Producers throughout the U.S. soon began to try out this "new" crop, and by 1979 sunflower acreage exceeded that for peanuts, rice, and tobacco combined. Among oilseeds, the sunflower crop was second only to soybeans last year in terms of production. Of course, cottonseed production is still larger than sunflower, but cotton is grown primarily for its lint and, therefore, is not really considered an oilseed.

Heading For No. 1

Now, at the start of the 1980's USDA analysts are predicting that the U.S. will become the world's largest producer of sunflower in the next few years. The USSR has that honor for the moment; but the Soviets are still cultivating open-pollinated sunflower, and their production has stagnated in recent years at around 12 billion pounds.

U.S. Sunflower Takes Off



△ Oilseed sunflower only. 1979 Preliminary.

° Export figures on crop year; 1979 figure is forecast for 1979/80.

So if the technological leaps in sunflower yields and oil content that researchers now foresee are realized, the U.S. will undoubtedly move into the forefront in world sunflower production.

The U.S. is already the world's largest exporter of sunflower seed. U.S. farmers export over 75 percent of the sunflower seed they produce. By contrast, in the USSR, sunflower is the main source of vegetable oil, so most of the Soviet production is consumed domestically.

Actually, it was the Soviets' need for an oilseed crop adapted to their country's climate that led to the evolution of sunflower as a viable oilseed crop in the U.S.

Back during World War II, some U.S. farmers—responding to the country's need for vegetable oil—grew oilseed sunflower on a limited basis. But, at the time, the seed oil content of sunflower was too low for it to compete economically with other U.S. crops.

For The Birds

So, after the war, sunflower returned to being just an ornamental crop grown for

NORTH DAKOTA
STATE UNIVERSITY
NOV 4 1980
LIBRARY

birdfeed and snacks. Non-oil varieties of sunflower are still grown in the U.S., but they now account for only about 4 percent of total U.S. sunflower production.

Meanwhile, Soviet plant breeders succeeded in pushing the oil content of sunflower seed from 30 to 40 percent. As a result, the Russians began to cultivate oilseed sunflowers extensively, while soybeans, cottonseed, flax, and peanuts continued to provide most of the U.S. vegetable oil needs.

The increase in oil content, however, made sunflower economically competitive with other U.S. cash crops. Soybeans, after all, contain—then as now—only about 18 percent oil. U.S. farmers began growing Soviet-developed open-pollinated oilseed sunflower in 1966, but it wasn't until the U.S. hybrid varieties came along that sunflower really caught on in this country.

In addition to higher yields, the hybrids have several distinct advantages over open-pollinated varieties, including a much greater resistance to rust. Also, every plant in a hybrid field has the same genetic background, so all the plants tend to have fairly similar flowering and maturity timing, height, seed oil content, and rust resistance.

This uniform development makes sunflower production much easier: Farmers can time insecticide applications more effectively and harvest the seed more efficiently.

All Signs Go

Now that the U.S. sunflower industry has geared up, some analysts see an almost unlimited potential for sunflower as an oilseed crop. Among the factors in the sunflower's favor are:

• *Profitability*. In 1979, the break-even price for North Dakota growers—who produce over 60 percent of the U.S. crop—was about 8 cents a pound. And even though the average farm price for the current marketing season is the lowest since 1972/73, at 9 cents a pound it will still bring producers a good profit.

Of course, production costs vary greatly because of differences in management practices, land, and weather. Nevertheless, both domestic and export demands for sunflower are expected to continue expanding in the 1980's, maintaining favorable farm prices in the face of rising production.

• *Adaptability*. Sunflower is widely adapted to most soil types of the U.S. It has lower fertilizer and water requirements than corn. Its growing season is shorter than that for soybeans, and it can withstand low temperatures and drought better.

Keeping Tabs On The "Newcomer"

Despite the dramatic strides of recent years, oilseed sunflower is still a relative newcomer to U.S. agriculture. As a result, information on sunflower crop production and acreage is not as complete as that for established crops like corn, soybeans, and wheat.

USDA's Crop Reporting Board estimates sunflower acreage and production for four states—Minnesota, North Dakota, South Dakota, and Texas. The official estimates for these states represent 90 to 95 percent of the actual U.S. totals.

Sunflower crops are creeping into the agricultural repertoire of many states throughout the nation—Missouri and Ohio in the Corn Belt and Georgia, Alabama, and South Carolina in the Southeast.

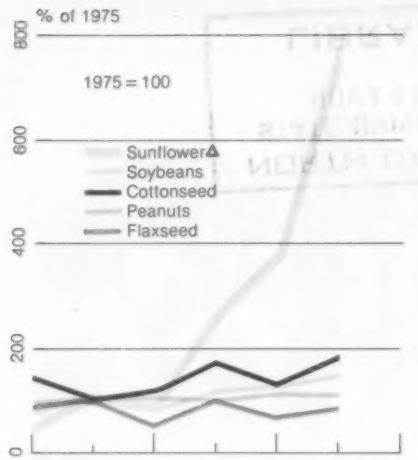
Nevertheless, the Red River Valley area of Minnesota, North Dakota, and South Dakota remains the undisputed heart of the U.S. sunflower industry. In 1979, the sunflower crop in these three states represented 99 percent of the Crop Reporting Board's estimates. North Dakota is by far the leader—last year, it had 62 percent of the total acreage and production reported.

In coming years, the Crop Reporting Board hopes to expand its coverage of the U.S. sunflower crop to include other producing states. It is currently experimenting with remote sensing—gathering information by satellite—on sunflower in the Red River Valley as an aid to estimating production over large areas.

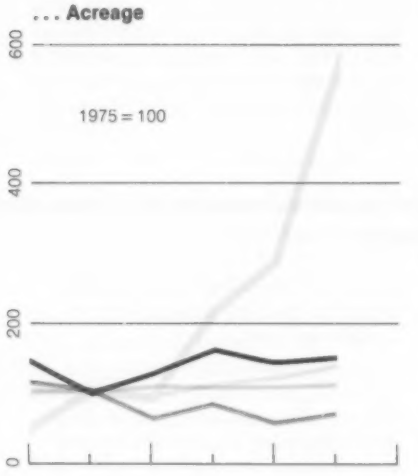
Results of the Crop Reporting Board's surveys on sunflower production, acreage, yield, and prices are released in the following publications throughout the year: *Crop Production* (October and January annual), *Prospective Plantings* (January and April), *Crop Values* (January), Agricultural Prices (monthly), *Acreage* (June), and *Field Crops—Production, Disposition, and Value* (April).

These publications can be ordered by writing the Crop Reporting Board, Room 0005-South, USDA, Washington, D.C. 20250. Ask for the reports by title.

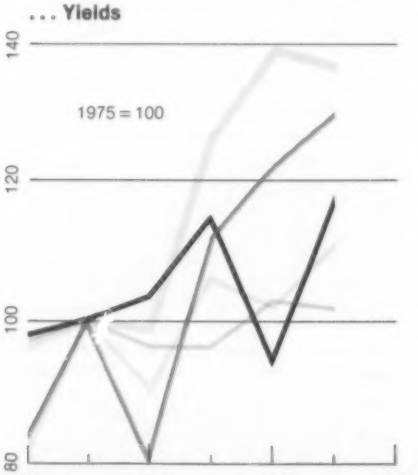
Comparing the Oilseeds
. . . Production



. . . Acreage



. . . Yields



△ Oilseed sunflower only. 1979 preliminary.

These factors make sunflower an ideal candidate for double cropping, as well as a good choice for marginal lands, for example, in the fringe areas of soybeans and corn where these crops are less productive.

• *Export demand.* Western Europe is by far the largest market for U.S. sunflower, taking nearly 90 percent of all U.S. sunflower seed exports. West Germany and the Netherlands, alone, account for nearly 70 percent of that. Most of the exports to Western Europe are shipped as seed, which European processors then crush for oil and meal.

Currently, the export market is the lifeblood of the sunflower industry. Sunflower oil is the preferred salad and cooking oil in Europe, and European demand for U.S. sunflower seed is likely to remain strong in the future. Nevertheless, it is the domestic market that offers sunflower growers the greatest growth potential.

• *Domestic demand.* The U.S. sunflower industry obviously expects the domestic market for sunflower oil to blossom in the next few years. Based on plant expansions and new mills announced by the industry—five new mills are planned in North Dakota alone—the U.S. crushing capacity will rise from about 1 million metric tons this year to about 2.6 million tons by 1981/82.

In the 1979/80 marketing year, domestic crushing of sunflower seed is expected to total 450,000 metric tons. U.S. consumption of sunflower oil will jump from 78,000 to 120,000 tons, and domestic use of the high-protein sunflower meal will rise to 270,000 tons.

New Markets

Sunflower oil has recently entered the U.S. retail vegetable oil market. It is marketed as a cooking oil—both pure and combined with soybean oil—and in margarine. The high quality of sunflower oil for cooking seems to guarantee its popularity: excellent stability, high smoke point, light color, and bland flavor.

As a premium quality oil, sunflower oil competes mainly with corn and safflower oil; it is more stable than safflower oil and higher in polyunsaturates than corn oil. These advantages should insure sunflower oil an increasing share of the premium market in coming years.

In competition with soybean oil—which now accounts for about 80 percent of the vegetable oil market—its primary disadvantage is a higher price tag. But as the supply of sunflower oil grows and it becomes established in the domestic oil market, this could change.

Sunflower meal has the potential for expansion in the domestic livestock feed market. Without dehulling, sunflower seed yields a 28-percent protein meal. A 44-percent protein meal can be manufactured by partially dehulling the seeds before extracting the oil. Further screening of the meal raises the protein content to 51 percent. Soybean meal is either 44 or 49 percent protein, depending on whether or not it is dehulled.

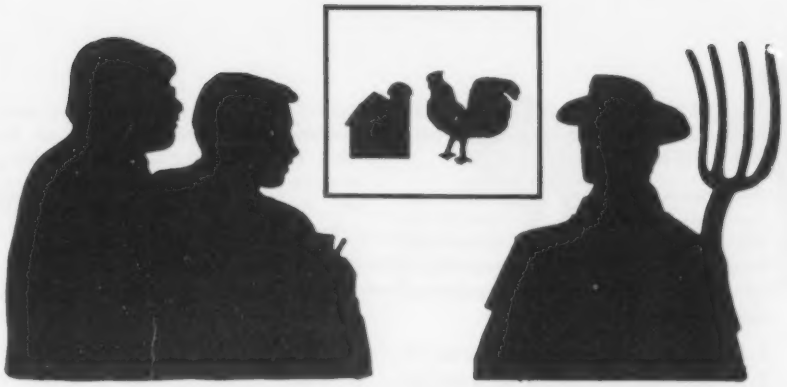
In addition, unlike other oilseeds, sunflower seed contains no growth-inhibiting or toxic elements. Toxic components in cottonseed, rapeseed, and soybeans must be deactivated in processing before a meal suitable for feeding can be produced.

Sunflower meal is equally nutritious as soybean meal, and its primary disadvantage is its high fiber content, which can be remedied through dehulling.

Thus, the future of the U.S. oilseed sunflower is bright indeed. The average oil content of sunflower seed—currently at 40 percent—could rise to 60 percent or higher in years to come. And if the researchers now working in sunflower genetics are successful, new and improved hybrids could shortly boost per-acre yields to 3,000 pounds.

All this excitement and optimism could indeed reflect the start of something big. After all, remember the 1930's and the early corn hybrids? Look what happened to that crop!

Face To Face



A cross-country series of meetings early this year gave farmers and others in the agricultural sector a chance to tell top officials of USDA's Economics, Statistics, and Cooperatives Service what information they need from the agency—and how ESCS can do a better job of providing it.

These Data Users Meetings will influence officials as they make decisions on budgets and programs for the years ahead. The open sessions were held in Sacramento, Dallas, Atlanta, and Washington, D.C.

Virtually every segment of the agricultural sector was represented, producers and processors, shippers and bankers, and federal and state policymakers. In all, more than 100 organizations participated.

Feedlots To Florists

Comments—many praising the current ESCS program for supplying accurate and timely information—came from representatives of diverse producer groups ranging from the California Cattle Feeders Association and the Florida Fruit and Vegetable Association to the Society of American Florists.

Besides producers, attendees represented a broad spectrum of other agriculture-related concerns, such as Cargill, Del Monte, Statistics Canada, the Fertilizer Institute, Ralston Purina, Sante Fe Railway, and the Bank of America.

Despite their diverse interests, participants shared much common ground in informational needs from ESCS. Many participants at each meeting wanted ESCS to provide more data and publish it sooner. Suggestions ranged from increasing coverage of agriculture in counties throughout the country to expanded use of satellites to capture foreign and domestic production potential for better marketing decisions by U.S. farmers.

Among the ESCS listeners were the Administrator, Kenneth Farrell; the Deputy Administrator for Statistics, William Kibler; and then Chairman of the Crop Reporting Board, J. W. Kirkbride. These and other USDA officials will review data users' requests and determine whether the agency can fill them.

Expanding And Improving

Not all the requests are easily met. For example, faster and expanded service in response to each request would mean added costs. Expanding and improving the current estimating and analyzing program, without offsetting cutbacks of other agency services, would increase the ESCS budget.

The data user conferences were held as the agency began developing its fiscal year 1982 budget (October 1981 through September 1982). Comments from conference participants will influence budget priorities, Dr. Farrell said.

A priority urged by many attendees was the need to continue or expand agricultural data for individual areas, such as counties. Requirements for cost-of-production data for specific commodities and by size of farm were noted at all of the meetings. The current energy crunch came in for attention—especially concerning information related to gasohol and wood production, use, and demand.

How Many Tomatoes?

Turning to more specific needs, representatives from producer groups had special requests. Both the turkey and broiler organizations cited the need for data on marketings of processed poultry meat along with continuing information on whole bird sales. A California tomato producer asked for more specific information on how many tomatoes Americans eat annually.

Comments also were directed at a national pecan production estimate, a data series on retail milk prices, aerial photography for estimates of California citrus, and a survey to determine sheep, lamb, and calf losses from predators.

Meeting User Needs

If previous data users meetings are an indication, ESCS will adjust its programs to accommodate needs expressed in the latest series. For example, potato industry representatives convinced USDA to stop issuing planting intention estimates because producers felt that the pre-planting information was not serving a useful purpose. A pilot project is underway in five states to see if an adequate series of farm-level prices for potatoes can be developed.

Changes are being made in vegetable estimates because of fund adjustments. Being eliminated are March acreage intentions for processing vegetables, acreage intentions for onions in January, March, and October, and estimates of fresh market tomatoes in Kentucky.

Because up-to-date statistics on crop and livestock estimates are critical to monitoring the rapidly changing food and agricultural system, ESCS plans to continue regular reviews with data users. The goal is to assure that the data are effectively serving user needs.

A Fair Return For U.S. Farmers?

Do American farmers receive a fair return for their investments, hard work, and high risks?

Considering that they feed and clothe hundreds of millions throughout the world, some farm folk may doubt that they're receiving a fair reward. And a quick glance over the 1970's seems to bear out their suspicions:

- Except in 1973, when total per capita income in the farm sector reached 110 percent of that for the nonfarm sector, farm people consistently received a smaller per capita income than nonfarm people.
- Without income from nonfarm sources, many small-scale farmers would fall into the government's official poverty category. For most years during the 1970's, more than half the farm population's income came from nonfarm sources.

Such figures have raised congressional eyebrows in Washington. So, as the 1981 Farm Bill debate nears, policymakers are taking a hard look at farmers' finances as they seek ways to relieve the stresses on America's largest and most successful industry.

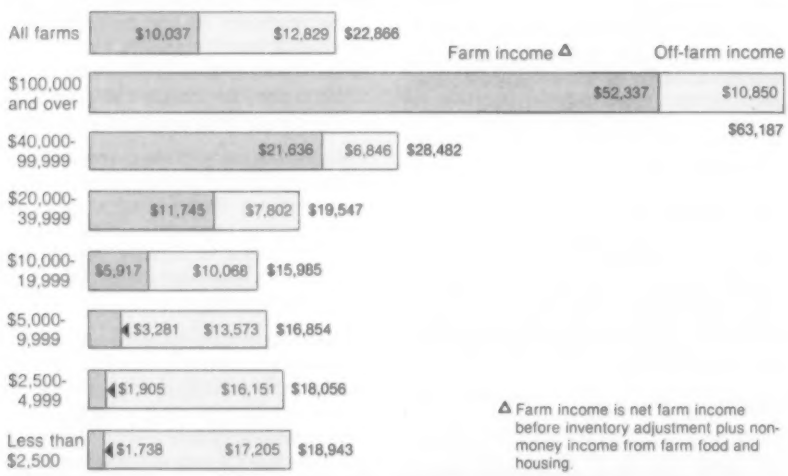
While at first blush the farmer appears to be underpaid, complexities lurk beneath the surface.

A recent study by USDA's Milton H. Ericksen and A. L. Frederick of Kansas State University provides an overview of major financial considerations that face policymakers.

Per Capita Income

While farm people continue to draw less income, on the average, than nonfarm Americans, that gap has closed considerably in recent years.

Income per Farm Operator Family, 1978



Δ Farm income is net farm income before inventory adjustment plus nonmoney income from farm food and housing.

In the 1930's, farm folks' per capita income was less than 40 percent of that for nonfarm people. That percentage reached 50 percent in the 1950's, 70 percent in 1966, and 91 percent in 1978. Throughout the 1970's, the figure stayed at or above 80 percent.

Regardless of such progress, a disparity still exists. However, programs designed to provide farm-nonfarm income equity have a serious hitch: Raising farm income may not help the farm people who most need help.

The problem is that small-scale farmers, who are most likely to tred closest to the poverty line, depend far more on nonfarm income than on farm income, while the opposite is true for larger farmers who, though in the minority, earn the lion's share of net farm income.

In 1978, for example, the 1.8 million farms with annual sales of under $20,000 earned about $5 billion in net farm income and some $27 billion in nonfarm income overall. Less than a fifth of their total income came from the farm.

On the other hand, the 577,000 farms with sales of $40,000 and over earned nearly $18 billion in net farm income in 1978 and slightly over $4.5 billion in nonfarm income. Over three-fourths of their total income came from the farm.

This means that programs that ignore off-farm income while boosting farm income may help the already-prosperous farmers much more than those who are struggling to get by.

Capital Gains

Income figures by no means constitute the only measure of farm financial well-being. Capital gains, while not realized until assets are sold, contribute greatly to the overall wealth of farm people.

Since 1960, about 87 percent of the capital gains in agriculture have been due to rising farm real estate values.

And since 1970, capital gains have topped total net farm income each year.

But these "on-paper" gains in wealth do not provide ready cash for farm and family expenses. Escalating operating costs continue to pinch farm incomes, and many farmers may be living out the adage "live poor, die rich."

Even so, capital gains offer a break because they're taxed at a lower rate than ordinary income. And, when the farmer goes to his banker for credit, appreciation of capital assets provides security for loans, increased leverage to purchase more land, and a nest egg for retirement.

Returns To Resources

Another way of gauging farm finances is to add net income and capital gains to derive a return-on-investment figure.

Since 1960, net income earnings on farm equity capital have averaged about 4 percent per year. But when net income and capital gains are combined, the rate of return on equity jumps to 12 percent annually—about double the rate of return on common stocks, including dividends and capital gains, since 1960.

While some may argue that farming's risky, erratic earnings from year to year justify this higher average, common stock returns show even greater year-to-year variation.

But, once again, the picture is clouded by the question: Which farmers are you talking about? Most of the increase in asset values is due to rising land value, but not all farmers own land and, even among those who do, large holdings are concentrated in the hands of a small minority.

Moreover, some farmers have cash flow problems because their operations don't produce enough cash to meet operating and family expenses. This is especially true of recent entrants into farming who must pay off land purchase debts in addition to operating expenses.

Since programs that boost returns for given commodities also raise the value of farmland and other assets associated with producing them, established owners benefit most.

It's difficult to raise the cash income of recent entrants to farming and who own no land without adding to the value of assets held by established farmers. By pushing up such values, such a program would make new entry even harder.

Failure Rates

A measure of farm financial health is the limited failure rate. There's indication that the foreclosure rate for farmers is about the same as for other businesses—less than 1 out of 200 annually.

But many farming operations make minimal profits, even if foreclosure doesn't occur. Government programs to fend off foreclosures—such as stepped-up credit programs—may reduce such failures. But they wouldn't address the core problem of inadequate incomes and resource returns.

Income Instability

One of farming's facts of life is the year-to-year income instability. After a record farm income of $33.3 billion in 1973, farm income fell for 3 successive years to $18.8 billion in 1976. Since then, farm income has again been on the rise, with 1979 income near the record $33 billion again.

Income variation among the different agricultural sectors is even more dramatic. While total farm income rises and falls from year to year, a farmer's share of that total income varies with the type of product produced. In 1972, crop receipts comprised 42 percent of total farm receipts, rising to 55 percent in 1974. Meanwhile, livestock receipts dropped from 58 to 45 percent in that period.

Thus, cattle producers suffered heavy losses while crop farmers enjoyed relative prosperity. And, during the next 2 years, the roles reversed.

Inflation Effects

The new-entry farmer faces still another economic enemy in the form of inflation. While established owners may benefit from inflation-boosted land prices, the cost of getting started is soaring.

Even established farmers are at a disadvantage, however, in inflation for inputs. While input suppliers can boost prices to cover inflation costs, the farm sector cannot respond as quickly.

This aggravates the long-standing problem for beginning farmers of surviving lean early years. Partnerships, part-time farming, renting and leasing, and off-farm jobs are being used by new farmers to stay afloat.

Other Factors

While the general financial factors discussed dominate farm finances, income problems tend to vary by commodity mix, geographic region, size of business, tenure, and operator age. Obviously, variation in financial situations occur within each of these categories.

Commodity mix is a key income factor. Some commodities, such as fruits, are grown under production contracts that set prices in advance, thus limiting but assuring a return. Others are protected by government price supports to stabilize prices.

Some farms seek stability by diversifying. But many producers opt for economies of scale by concentrating on one commodity, even while recognizing its cyclical pattern offers feast or famine years.

Regional variations are considerable, due to farm size, soils, commodities produced, and weather patterns. Per farm net income in 1978 ranged from $56,706 in Arizona to only $811 in West Virginia. Arizona's high per capita income figure comes from the relatively few, large, irrigated farms that dominate that state's agriculture. West Virginia, on the other hand, is characterized by relatively small, part-time farming operations.

This geographic variation also relates to still another important element: variation by size or volume of business. Many farms—especially large farms—can do well without price and income support programs.

On the other hand, small farms often cannot benefit much from programs that tie benefits to the quantity of a given commodity produced.

In between the large-small extremes, operators of medium-sized farms may face the worst squeeze of all. They are often less free than small farmowners to supplement their incomes with off-farm work. Yet they don't have the economic muscle to bargain for discounts on major inputs or price premiums for their produce. Some experts contend that these are the farms most in need of price and income support programs.

Farmowners aren't the only ones in need of help. Tenants and part owners still hold a significant number of farms, despite a decline in tenant farms from 42 percent of all farms in 1935 to about 11 percent in 1974. During that period, the percentage of farms operated by full owners rose from 47 to 63 percent, while those operated by part owners increased from 10 to 26 percent.

Part owners, who both own and rent land, control most U.S. farmland and produce the highest value in products sold. The part ownership increase in the 1970's reflected a painful dilemma for some farmers: While unable to justify buying land from a cash flow standpoint, ownership offered considerable benefits in current and potential capital gains.

A final factor is operator age. Young farmers tend to have a higher debt-asset ratio than older, more established farmers. Thus younger farmers, who still face large debts that they incurred in getting started—and a lower accumulation of assets in such capital items as land and equipment—are more likely to face cash flow problems.

In other words, farmers nearing retirement are far better able to expand than young neighbors who have the energy and ambition to do so—but who lack the means to come up with the necessary money.

In devising future programs and policies, government officials must balance these and other factors if they are to succeed in strengthening the position of the types of farmers who most need help: the young and new entrants, the medium-sized full-time operators, and the small farmers.

Agricultural Roundup

New Leader Sets Goals

"The major issue we've got facing us is our credibility with the American agricultural producer," says James L. Olson, the new head of USDA's Crop Reporting Board.

On March 1, Olson succeeded John W. Kirkbride who retired as chairman of the Crop Reporting Board and associate deputy administrator for Statistics of the Board's parent agency, the Economics, Statistics, and Cooperatives Service (ESCS).

Olson plans to meet the credibility test head-on. "We'll do it by redoubling our efforts to communicate with all sectors of agriculture, but more importantly with the producers who provide the raw data that make all the estimates possible," he says.

He's not without experience in that arena. In fact, when he headed USDA's state statistical office in Idaho, from 1967 to 1972, his emphasis on the agency's public service role in agriculture and his efforts to improve statistical procedures earned him a USDA Superior Service Award.

Nevertheless, what he perceives as "general dissatisfaction with government as a whole" makes the task more difficult. "It's going to be a tremendous challenge in this era when big government is so distrusted for us to keep producers fully informed and earn their continued cooperation in order to provide accurate, unbiased estimates," Olson says.

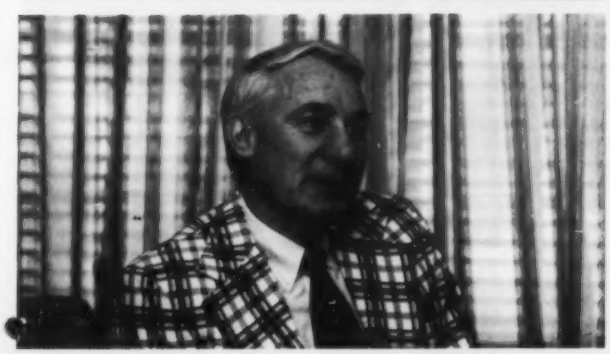
Why is it so important? "We feel that the more information a producer has, the better decisions he's able to make. Because of this, we are constantly trying to improve data accuracy," he adds.

Olson began his career as an agricultural statistician with USDA in 1956 after receiving a master's degree in agricultural economics from South Dakota State University. Before taking charge of USDA's Idaho office, he served as an agricultural statistician in the South Dakota and Colorado offices.

His field experience and the various Washington, D.C., posts he's held on both operational and administrative assignments provide a well-rounded background for his new position.

In fact, his work in statistics has taken him to every state, including Alaska and Hawaii, and has covered livestock and all major U.S. crops.

His previous positions in Washington include being in charge of all state statistical offices, and serving as chief of the crops branch, assistant to the administrator of ESCS, chief of the prices and farm labor branch, and—until his recent appointment—director of the survey division.



Surveying Farm Women

USDA will soon know a good deal more about the role of women on the nation's farms and their experiences with farm services and programs.

About 4,100 farm women will be contacted in a nationwide survey this summer as part of an inquiry into the status of women in relation to USDA programs, program management procedures, and job opportunities.

The survey will be conducted for USDA by the National Opinion Research Center of Chicago, a nonprofit social research institute.

Information from the survey will provide USDA's recently established Farm Women's Project with a record of farm women's experiences with USDA services and their perceptions of the Department.

The Farm Women's Project will also report on farm women's legal rights to USDA program benefits and funds.

Farm women with suggestions on the survey can write to Carol Forbes, Farm Women's Project, Rm. 1548 South Bldg., USDA, Washington, D.C. 20250, or phone (202) 447-2582.

Selling Direct

Farmer-to-consumer direct marketing is big business in some states.

Of six states surveyed by USDA on direct marketing activities in 1978, Michigan was the leader with nearly $76 million in such sales.

Pennsylvania was second, followed by Ohio, Indiana, New Jersey, and North Carolina. These states were selected for the survey in large part because of the importance of direct market sales to their farm economies.

Michigan also led in the number of growers involved in direct marketing, with over 23,000 in 1978. However, Pennsylvania's direct marketers had the highest average sales per grower—over $10,000. New Jersey ranked second with about $5,700 per direct marketer.

In terms of the relative importance of direct marketing to farm sales, results from New Jersey showed that 64 percent of the farms in that state marketed some products directly to consumers, and direct sales accounted for almost 8 percent of gross cash receipts. Michigan was second by this measure, with 36 percent of the farms selling directly to consumers and direct sales representing almost 4 percent of cash receipts.

Floral and nursery products were the major value items sold by direct marketing to the consumer. Apples led the way among fruits, and sweet corn among vegetables.

Pennsylvania was the only state among the six surveyed to show a significant value (nearly $27 million) in direct sales of dairy products, and North Carolina was the only state to report a significant volume of direct sales of pecans, okra, lima beans, green peas, and salad greens.

Surveys on direct marketing were mandated by the Farmer-to-Consumer Direct Marketing Act of 1976, which is designed to promote these activities. Direct marketing generally involves sales by farmers through roadside stands, farmers' markets, and pick-your-own farms.

1980 CROP REPORTING

MAY

Monday	Tuesday	Wednesday	Thursday	Friday
			1	2 Poultry Slaughter
5 Celery	6	7 Vegetables	8 Milk - Prod., Disp., & Income	9 Crop Production
12 Naval Stores - Annual	13 Milk Production	14 Cattle on Feed; Potato Stocks	15	16 Maple Sirup
19	20 Cold Storage	21 Naval Stores; Eggs, Chickens, & Turkeys; Egg Products	22 Livestock Slaughter; Farm Labor	23 Peanut Stocks & Processing; Seed Crops - Annual
26 Holiday	27	28	29 Com. Fertilizers	30 Dairy Products; Dairy Products - Annual; Agricultural Prices

JUNE

2 Poultry Slaughter; Minn.-Wisc. Mfg. Milk Final 1977-79	3	4	5 Celery	6 Vegetables - Annual
9 Vegetables	10	11 Crop Production	12 Milk Production	13 Cattle on Feed
16	17	18 Egg Products	19 Livestock Slaughter; Cold Storage	20 Grain Stocks; Hogs & Pigs; Naval Stores
23 Eggs, Chickens, & Turkeys; Vegetables	24 Cherries - June 15	25 Peanut Stocks & Processing	26	27 Acreage; Popcorn
30 Com. Fertilizers; Dairy Products; Agricultural Prices - Monthly; Agricultural Prices - Annual				

JULY

Monday	Tuesday	Wednesday
	1	2 Poultry Slaughter
7 Celery; Mink	8	9 Vegetables
14	15	16 Egg Products
21 Lamb Crop & Wool; Naval Stores; Eggs, Chickens, & Turkeys	22	23
28 Cattle	29	30 Com. Fertilizers

AUGUST

4 Field Seed Stocks	5 Celery	6
11 Crop Production	12 Milk Production	13 Cattle on Feed; Mushrooms; Egg Products
18 Veg. Seed Stocks	19 Cranberries	20 Naval Stores; Cold Storage; Farm Labor
25	26	27

SEPTEMBER

1 Holiday	2 Poultry Slaughter	3
8	9	10 Vegetables
15 Peanut Stocks & Proc.; Seas. Rept. Hop Stocks	16	17
22 Soybean Stocks; Hogs & Pigs; Naval Stores	23 Eggs, Chickens, & Turkeys	24 Peanut Stocks & Processing
29	30 Com. Fertilizers; Agricultural Prices	

TING BOARD CALENDAR

Wednesday	Thursday	Friday
2 Poultry Slaughter	3 Noncitrus Fruits & Nuts - Midyear Supplement	4 Holiday
9 Vegetables	10 Tall Fescue Seed (Southern States)	11 Crop Production
16 Egg Products	17 Milk Production	18 Cattle on Feed; Cold Storage
23	24 Livestock Slaughter	25 Peanut Stocks & Processing
30 Com. Fertilizers	31 Dairy Products; Agricultural Prices	

		1 Poultry Slaughter
6	7 Tall Fescue Seed (Oreg)	8 Vegetables
13 Cattle on Feed; Mushrooms; Egg Products	14 Commercial Apples by Varieties	15
20 Naval Stores; Cold Storage; Farm Labor	21 Rice Stocks; Timothy Seed; Eggs, Chickens, & Turkeys	22 Peanut Stocks & Processing; Livestock Slaughter
27	28 Com. Fertilizers	29 Dairy Products; Agricultural Prices

3	4	5 Celery
10 Vegetables	11 Crop Production; Egg Products	12 Cattle on Feed; Milk Production
17	18	19 Livestock Slaughter; Cold Storage
24 Peanut Stocks & Processing	25 Potatoes & Sweet-potatoes	26 Citrus Fruits

OCTOBER

Monday	Tuesday	Wednesday	Thursday	Friday
		1 Dairy Products	2 Poultry Slaughter	3 Cherry Utilization
6 Celery	7 Red Clover Seed	8	9 Vegetables; Egg Products	10 Crop Production
13 Holiday	14 Milk Production	15	16	17 Alfalfa Seed
20 Cattle on Feed; Cold Storage	21 Naval Stores; Eggs, Chickens, & Turkeys	22	23 Grain Stocks; Rice Stocks	24 Peanut Stocks & Processing; Livestock Slaughter
27	28	29	30 Com. Fertilizers	31 Dairy Products; Agricultural Prices

NOVEMBER

3 Egg Products; Poultry Slaughter	4 Com. Fertilizers - Annual; Celery	5	6	7
10 Crop Production; Vegetables	11 Holiday	12	13 Cattle on Feed; Milk Production	14 Sheep & Lambs on Feed
17	18	19	20 Cold Storage; Livestock Slaughter	21 Naval Stores; Eggs, Chickens, & Turkeys
24 Peanut Stocks & Processing; Farm Labor	25	26	27 Holiday	28 Com. Fertilizers; Agricultural Prices

DECEMBER

1 Dairy Products	2	3 Poultry Slaughter	4	5 Com. Fertilizers by Class; Celery; Egg Products
8	9	10 Crop Production	11	12 Milk Production
15 Cattle on Feed; Potato Stocks	16	17	18	19 Livestock Slaughter; Cold Storage; Eggs, Chickens, & Turkeys
22 Naval Stores; Peanut Stocks & Processing; Vegetables-Prelim	23 Small Grains; Hogs & Pigs	24	25 Holiday	26 Farm Numbers
29	30	31 Com. Fertilizers; Dairy Products; Agricultural Prices		

To start receiving any of the reports listed, send your name, address, and zip code to: Crop Reporting Board, Room 0005-South, USDA, Washington, D.C. 20250. Ask for the report(s) by title.

Reports Compiled and Processed in Lockup.

World Update

Strengthening The China Connection

Since the U.S. established full diplomatic relations with China only 16 months ago, that nation is well on its way to becoming one of the top 10 markets for American farm products.

In the fiscal year ending in September 1978, China ranked 20th among importers of U.S. agricultural goods, with purchases totaling $370 million. Last year, in an atmosphere of expanding political and economic ties, U.S. sales of farm products soared to $917 million, making China the number 12 market.

This year, USDA trade experts predict that China will easily enter the billion dollar club, with imports of around $1.3 billion—due primarily to increased cotton purchases. This could put China among the top 10 U.S. markets.

In 1974, U.S. agricultural exports to China reached as high as $870 million, but China regarded the U.S. primarily as a "supplier of last resort" when needed quantities of grains or cotton could not be obtained from its traditional suppliers. Consequently, U.S. farm sales to China fluctuated considerably, dropping to almost nothing in 1975/76 and 1976/77.

Extending Most-Favored Status

Whether China will continue to provide a growing market for U.S. farmers depends on a number of factors, but the recent granting of most-favored-nation trading status by the U.S. Congress should encourage a strengthening of agricultural trade ties.

This tariff-reducing action will help the Chinese earn more foreign exchange on their goods sold in the U.S. and thus finance more purchases of U.S. agricultural products. It will also provide the Chinese with low-cost loans from the U.S. Export-Import Bank to finance purchases of other U.S. goods.

China's new willingness to use credit reflects a major change in policy. In the past, the Chinese government refused to accept anything that even resembled foreign assistance, and purchases from the U.S. were made on a cash basis. However, in an effort to modernize its agricultural and industrial sectors, China is showing increased flexibility in financing trade.

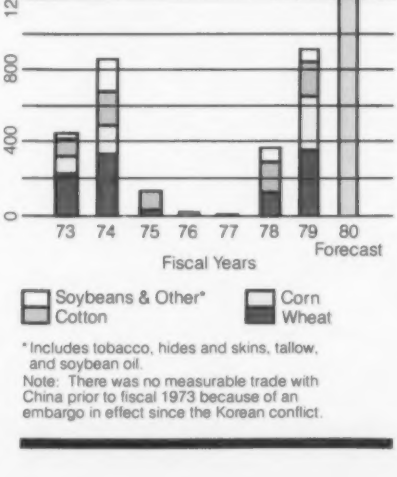
Need For Grain

Despite China's large 1979 grain crop—its second consecutive record harvest—the 1980 market for U.S. grain is promising, although forecast to be somewhat below last year's record levels.

China's production for 1979 was reported at 315 million metric tons, 3.3 percent above the 1978 crop of 305 million tons. This included 60.5 million metric tons of wheat, 140.5 million tons of rice, 77.5 million tons of coarse grains, and 10.5 million tons of soybeans.

China Market: Back On The Growth Track

Value Of U.S. Agricultural Exports To China



*Includes tobacco, hides and skins, tallow, and soybean oil.

Note: There was no measurable trade with China prior to fiscal 1973 because of an embargo in effect since the Korean conflict.

However, grain provides nearly 80 percent of the calories in the Chinese diet, due to the short supply of fish, poultry, and meat. Thus, even the harvests of the last 2 years were not enough to meet the demand.

Adding further pressure on China's grain output is a new government program aimed at expanding livestock and poultry production to increase both domestic consumption and exports of meats. Currently, meat consumption in China is only about 20 pounds per person per year, compared with around 210 pounds in the U.S.

Any attempt to increase meat production will require heavier feeding of livestock. For the near future, this could mean more grain through larger imports.

Wheat, coarse grains, cotton, and soybeans have been the leading money earners in U.S. farm sales to China since 1978.

In fiscal 1979, U.S. grain exports to China were led by corn at 2.75 million metric tons. In 1978, China did not import any corn from the U.S. Wheat exports nearly tripled, rising from 1 million tons in 1978 to 2.7 million tons in 1979. U.S. soybean exports grew from 60,000 tons in 1978 to 140,000 tons in 1979 and should continue expanding.

U.S. wheat and coarse grain sales to China are expected to be somewhat below the record amounts of 1979, because of two consecutive record grain crops and large purchases made under agreements with Canada and Australia.

Boom In Cotton Trade

The picture is brighter for cotton exports. While China's cotton production during 1979 was projected at 2.22 million tons, up slightly from the 2.17 million ton output of 1978, huge increases in China's cotton consumption have raised the demand for cotton imports.

Overall, China is expected to import a record amount of cotton, with the U.S. supplying over half of it, passing Japan and South Korea as the world's largest importer of U.S. cotton.

U.S. cotton exports to China in fiscal 1980 are forecast to possibly triple the 151 million tons exported in 1979. In 1978 that figure was 122 million tons.

As part of their modernization effort, the Chinese have indicated a strong interest in U.S. equipment and technology in the areas of agricultural chemicals, fertilizers, farm machinery, seeds and food processing equipment.

Tradeoffs In Trade

This sharp rise in U.S. sales of agricultural products over the last 2 years has resulted from shortages in China's agricultural sector, supply problems in other major exporting countries, and improved U.S.-China relations.

Despite such increases, China does not wish to rely on agricultural imports any more than necessary. Government plans call for sharply raising farm production by 1985. But it's unlikely that China will be able to keep pace with the pressures of feeding its nearly 1 billion people.

However, the Chinese caution that if the U.S. wants to keep expanding sales of farm products, Americans must buy more Chinese goods to offset an unfavorable balance of trade. They recognize that while trade between the two nations has grown by leaps and bounds, the unfavorable balance has widened just as swiftly.

Easing this disparity, U.S. imports of Chinese agricultural products in 1979 were expected to total somewhere near the record $84 million established in 1978.

The major import items were feathers and down used in ski jackets, sleeping bags, and pillows, which accounted for about one-quarter of all U.S. agricultural imports from China. Other leading import items were cashew nuts, tea, and silk.

King Cotton

U.S. cotton exports have mushroomed this season, thanks largely to the huge 1979 U.S. crop, low foreign stocks, continued expansion in foreign mill use, and a boom in Chinese demand. For the first time since the 1930's, more cotton will be shipped abroad than will be used in the U.S.

The U.S. could sell as much as 9.5 million bales to foreign countries this season, although because of transportation limitations actual shipments probably won't top 8 million. Nevertheless, this is still well above last season's 6.2 million bales.

So far, sales to China are nearly four times last season's total shipments, accounting for much of the increase in U.S. exports.

The 1979/80 U.S. cotton production is estimated at about 14.9 million bales, with harvested acreage up and yields reaching a record high 551 pounds per acre. More than three-fourths of this season's output came from the Southwest and West, where average production costs are lower and alternative crops are less competitive.

By August 1, 1980, cotton stocks are expected to rise only half a million bales from this season's carryin of 4 million, and farm prices have consequently been strong. In mid-February, grower prices for cotton averaged nearly 62 cents a pound, up from 56 cents a year earlier.

Last fall, farm prices were averaging around 61 cents a pound—well over the target price of 57.7 cents. So, despite the lower cotton prices that prevailed through most of 1979, the U.S. average farm price ended up at 59 cents a pound—ruling out deficiency payments for the 1979 crop.

Building Bridges

Logs and lumber will soon be added to USDA's program of building bridges to export markets.

USDA's Foreign Agricultural Service and the National Forest Products Association (NFPA) have agreed to establish a joint program to promote overseas sales of solid wood products from U.S. farm and forest land. These exports amounted to about $2.6 billion in 1978, and experts say there's good potential for expansion.

The agreement covers solid products, both hardwood and softwood. Pulp and paper products are not included.

NFPA joins 49 other nonprofit organizations that have ongoing agreements with USDA for the promotion of U.S. farm product exports.

Apples Abroad

Grains and oilseeds dominate the export news, but the U.S. apple is quietly earning fame and fortune overseas.

Exports of U.S. apples this season (July 1979-June 1980) may reach their highest level since World War II as a result of a bumper U.S. harvest and increased demand in many markets. Around 8.6 million cartons (42 lb.) may be sold abroad.

Last season, the total was 7.5 million cartons valued at about $67 million; the year before, 7.9 million cartons, valued at $66 million.

Some 60 countries bought U.S. apples last season. Canada remained the largest buyer overall, taking 2.6 million cartons, but the most spectacular growth of recent years has occurred in the Middle East. U.S. apple sales there surged from virtually nothing in 1976/77 to over 1.1 million cartons last season.

Commodities

Soybean Watch

Faced with declining soybean prices, producers are not likely to significantly increase their soybean acreage this year.

Last year, U.S. farmers planted a record 71.6 million acres to soybeans. Yields reached an alltime high of 32.2 bushels per acre, and the result was a record soybean crop of 2.27 billion bushels, record soybean supplies, and depressed prices.

To compound the problem, soybean production in South America is anticipated to jump sharply this spring, which would put U.S. farm prices under further pressure. And although both exports and domestic use of soybeans are predicted to reach new highs this season, stocks on September 1, 1980, could be more than two and a half times larger than last year's 173 million.

Another key indicator influencing farmers' soybean planting decisions is the ratio between soybean and corn prices. A price ratio of at least 2.5 to 1 is generally considered favorable for soybean producers.

A year ago, when farmers made the decision to expand 1979 soybean acreage a tenth, this price ratio stood at 3 to 1. Last year, however, corn prices strengthened while soybean prices fell, and by March 1980 the price ratio was at 2.4 to 1.

The export forecast for 1979/80 is set at 820 million bushels, compared with 753 million last season. Ending stocks are projected at 425 million bushels.

U.S. farm prices are expected to average $6.00 to $6.40 a bushel for beans, 23 to 26 cents a pound for oil, and $165 to $185 a ton for meal. These forecasts compare with average farm prices last season of $6.75, 27.4 cents, and $190.10, respectively.

Frosty Touch, But Ample Oranges

Following two seasons of decline, U.S. citrus output rebounded to a record level this winter.

Despite the freezing weather that swept over the Florida citrus groves in early March, the damage to production and the consequent price effects are expected to be minor. Harvest was nearly half complete when the freeze struck. Figures reported in this article reflect estimates made prior to the freeze.

Estimated at 15.6 million tons before the freeze, 1979/80 citrus production was expected to surge 18 percent ahead of last year's 13.3 million. Production rose for all citrus fruits and in all major growing areas except Texas, where the groves had not yet recovered from the disastrous freeze of January 1979.

Oranges scored the sharpest increase over last season. In fact, this winter's crop of 11.3 million tons may be the largest on record—24 percent more than last winter and 7 percent above the record set in 1976/77.

Orange production rose an estimated 45 percent in California and 22 percent in Florida. The crops of these two states—totaling 254 million boxes—account for 97 percent of the U.S. total.

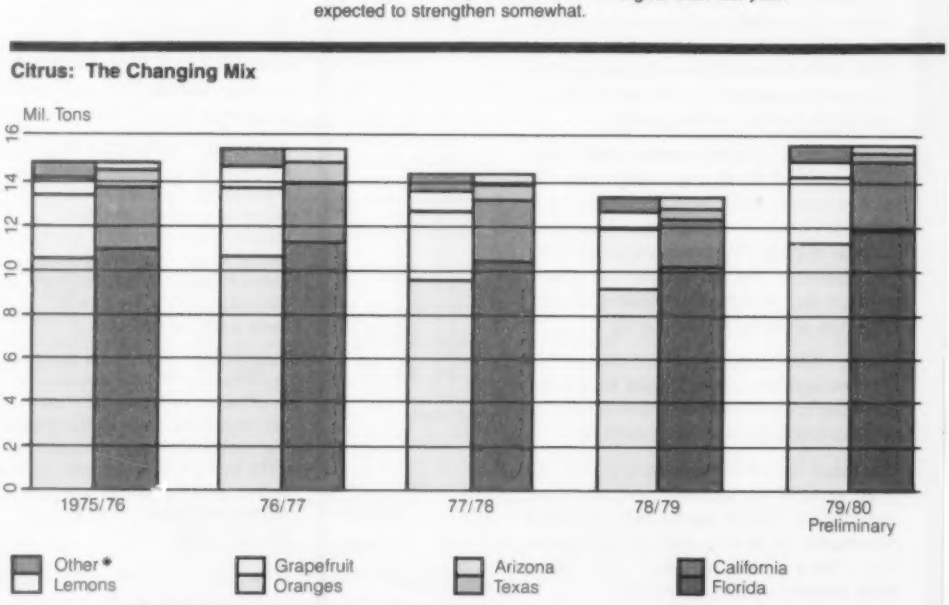
On-tree returns to growers have suffered this season from the huge supply of oranges. Last season, grower prices for fresh and processing oranges averaged $5.01 a box. In January 1980, grower returns averaged $3.09, and in February 1980 they were $3.38.

At the time this magazine went to press, the impact of the Florida freeze on orange prices had not been fully assessed. However, if juice yields were reduced, prices for processed orange juice can be expected to strengthen somewhat.

In contrast to the story for oranges, U.S. grapefruit production is expected to be only 1 percent larger than last season. The 1979/80 crop is currently estimated at 2.76 million tons (67.6 million boxes), about three-fourths of which was grown in Florida. Grapefruit production rose only 2 percent in Florida, while dropping 27 percent in Texas—the second largest grapefruit state. Arizona had a 29-percent increase over last season and California a 23-percent increase.

So far this season, on-tree returns for grapefruit have been above year-earlier levels. Compared with the 1978/79 average price of $2.17 a box, grower prices for grapefruit averaged $3.16 in December 1979, $2.89 in January 1980, and $2.80 in February. Grower prices averaged $1.55 a box in January 1979 and $1.73 a year ago February. They are expected to decline seasonally this winter but remain higher than last year.

Citrus: The Changing Mix



* Tangerines, Temples, Tangelos.

The U.S. lemon crop this winter is forecast to total 745,000 tons—1 percent above last season. The crop of tangerines will be up 18 percent from last season at 278,000 tons, while Florida tangelo production is expected to swell by 40 percent to 266,000 tons. The Florida temple crop, forecast at 243,000 tons, is up 15 percent.

Counting Sheep

Sheep numbers turned up in 1979 for the first time in 20 years. USDA's Crop Reporting Board estimated that the January 1980 count of U.S. sheep totaled 12.5 million head—a gain of 2 percent from a year earlier.

In 1960 there were more than 33 million sheep in the U.S. After that, the number dwindled each year until it hit 12.2 million on January 1, 1979—the smallest inventory since the government began keeping records in 1867.

Last year's turnaround in sheep numbers came despite a small decline in Texas, the largest sheep state. Among the major sheep states reporting gains were California, Colorado, South Dakota, and New Mexico. In all, 27 out of 41 reporting states contributed to the upturn.

At this point, even the experts can't say whether last year's increase signals a new period of expansion for the sheep industry, but the Crop Reporting Board's figures on the breeding herd indicate that some further growth may be in store for 1980 at least. Flock owners have 2 percent more breeding ewes over 1 year old than a year ago, and the number of ewe lambs not on feed for slaughter is up 7 percent.

Price movement last year provides a note of optimism. Sheep and lamb prices rose from an average of $71.70 per head early in 1979 to a record $77.90 by the start of 1980. These higher prices helped boost the total value of the sheep inventory 11 percent to $974 million.

One question facing sheep owners who plan to expand their flocks will be whether the demand for lamb and mutton is resilient enough to prevent a collapse in sheep prices when slaughter begins to increase. Since 1960, the consumption of lamb and mutton has dropped 69 percent—from 5.2 to 1.6 pounds per person per year.

Popping Away

The nation's popcorn crop was 35 percent larger in 1979 than the year before, and the farm value of that crop leaped 44 percent to nearly $50 million.

According to USDA's Crop Reporting Board, popcorn growers produced 538 million pounds of shelled popcorn last year, compared with 399 million in 1978 and 432 million in 1977. The big leap in production last year resulted from a 27 percent boost in harvested acreage combined with 7 percent higher yields. The average U.S. yield rose from 2,828 pounds per acre in 1978 to 3,012 pounds in 1979.

Nearly all of the U.S. popcorn acreage is forward-contracted. The average farm price of popcorn was higher in 1979 despite the larger crop. In 1978, popcorn was worth $8.44 a cwt. (national average), $9.03 in 1979. Indiana growers—whose acreage is dominated by specialty varieties of popcorn—received the highest price for their crop at $10.30 a cwt.

Indiana and Nebraska continued to lead other states in popcorn production last year. Together, they accounted for about 60 percent of the U.S. production and value.

High Hopes For Tree Nuts

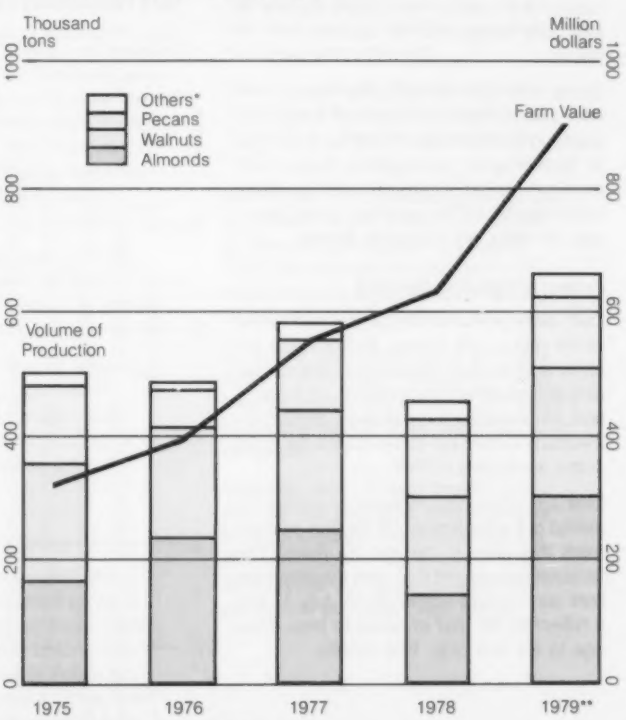
Closing in on the $1 billion mark, the farm value of U.S. tree nuts shot up 42 percent in 1979 on the strength of steep production increases and mostly higher prices. According to USDA's Crop Reporting Board, U.S. nut crops were worth $902 million last year, compared with $633 million the year before.

Almonds were the main force behind this sharp boost in total value. Almond output and value more than doubled from 1978, greatly offsetting declines in value for pecans and walnuts.

The 1979 almond crop also spearheaded the 45-percent rise in total nut production last year. Output of U.S. tree nuts reached 658,000 tons in 1979, up from 454,000 in 1978 and 584,000 in 1977. All 1979 crops except pecans and filberts were larger than the year before.

Despite a big jump in production, the 1979 walnut crop dropped 17 percent in value from 1978 because of a 35 percent decline in prices. By contrast, strong demand for almonds and short supplies from the small 1978 crop pushed grower prices for almonds up 8 percent from the year before, in spite of the huge production increase.

Tree Nut Values: Growing Skyward



*Filberts, Macadamia nuts, and Pistachios.
**Preliminary.

Crop Report Scoreboard: Calling It Close

One hundred percent accuracy may never be possible, but crop forecasting is still the best way to keep farmers informed and markets efficient, according to Floyd Rolf, who heads the crops branch of USDA's Crop Reporting Board.

In fact, the need for reliable forecasts of crop production continues to increase as markets become more sensitive to world demand for U.S. agricultural products, Rolf says.

With the 1980 spring planting season already getting underway, a new round of forecasts on major crops is beginning for the Board and its 44 state offices. How will the Crop Reporting Board score this year?

Each crop season presents a new set of uncertainties and changing conditions to challenge the statistical tools of forecasters. The changing conditions themselves require the Board to continually update its forecasts throughout the season, Rolf explains.

Some changes in forecasts result from new information not available when the previous forecast was made, such as data on farm program participation. More often, revisions reflect changes in crop conditions caused by the weather, insect damage, or other unpredictable forces.

Appearances Can Deceive

Last season, for example, farmers were faced with a late spring, and planting got off to a slow start. Because of the continuing improvement in conditions as the season progressed, early-season production forecasts turned out to be too low for most crops, according to Rolf.

Last July's first corn forecast, in particular, turned out to be further off the final harvest mark than any in the last 10 years. The forecast recognized that corn development was way behind schedule on July 1, and it reflected the fear of possible frost damage to the late crop, Rolf recalls.

However, the summer growing season turned out almost ideal. Crops came along fast and caught up. No serious hot spells threatened corn during the critical tasseling and silking period, so ears filled well. The growing season was followed by generally good conditions at harvesttime, including a late frost.

Each monthly corn production forecast issued by the Board reflected the steadily improving crop outlook, and yields were adjusted upward throughout the growing season.

From the July forecast of about 96 bushels an acre, yields were raised each month until they reached 109.2 bushels for the November forecast, just two-tenths of a bushel below the final record-setting yield of 109.4 bushels an acre.

Not Only Corn

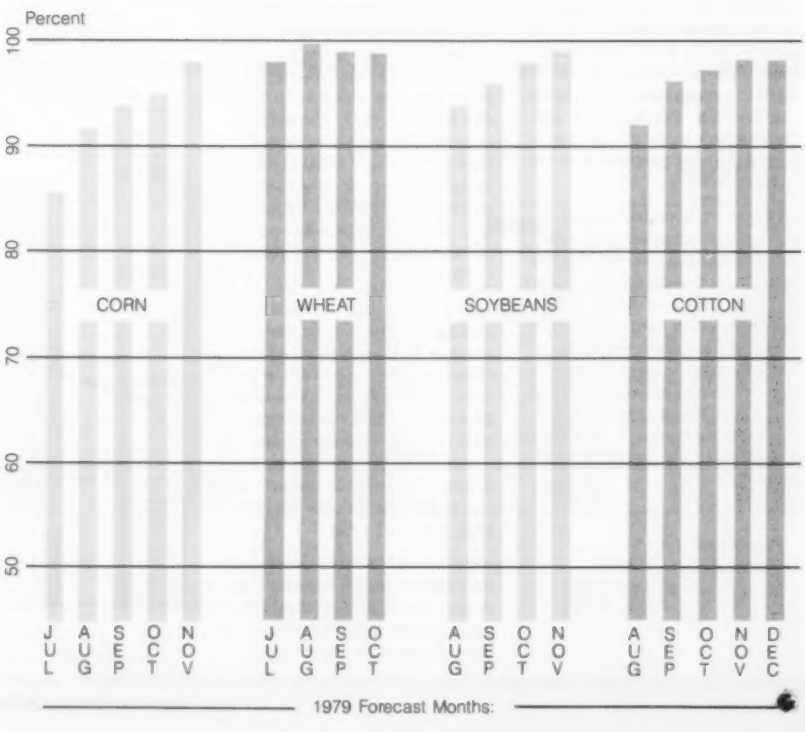
The situation was similar for soybeans and cotton—although not as extreme—as shown in the accompanying chart. Each production forecast rose until, by October, the forecasts were within a few percent of the final production estimates reported this past January.

The exceptions were the all-wheat forecasts which started out within 2 percent of final production, largely because 1979 winter wheat harvest figures were already in and winter wheat accounted for three-fourths of the total wheat crop.

But most of the Board's early-production forecasts had to be raised each month because of the way last season progressed—and that was the case for many other crops besides corn, soybeans, and

1979 Forecasting Season

Early Production Forecasts As A Percent Of Final Estimate For 1979 Crops



cotton. Each season is different, however, and production forecasts have an equal chance of missing on the high side.

Making The Most Of Crop Forecasts

So, how will the Crop Reporting Board score this season? In the end, how close each forecast comes to actual production will be less important than how farmers use the information in planning their marketings to get the best possible prices for their products.

Most farmers—whether or not they get USDA's crop reports—will hear the widely publicized acreage, yield, and production forecasts on the radio or read them in newspapers and farm publications. But some will pay more attention than others.

While there's no hard evidence that farmers who use the forecasts make higher profits than those who don't, experts say that farmers who ignore the market outlook may be placing themselves at a considerable disadvantage.

Barometers Of Change

"Farmers need to know about prospects for the supplies coming onto the market," Rolf says. Regardless of who else also uses the forecasts, until the crops are sold, it's the producer who makes the planting and marketing decisions—who decides whether to follow the same pattern year after year or whether to respond to changing conditions.

The crop estimates provide a barometer

Aiming For Accuracy

Although nature can be counted on to continue to challenge even the most advanced crop forecasting methods, USDA's Crop Reporting Board is constantly working to improve forecasting accuracy and adjust to changes in agriculture.

Two current efforts appear to hold particular promise, according to Floyd Rolf, chief of the crops branch.

"Our research division has been working on several weather-related forecast models," Rolf says. "They're also exploring methods of using remote sensing (by satellite) to improve acreage estimates."

Of course, one of the biggest limitations in the forecasting effort is money. "We have to work a balance between costly field observations by trained enumerators and less costly mail surveys," he says.

Through Fields And Mail

The field visits provide reliable planted acreage and yield indications for regional and national estimates. They also make it possible to determine the statistical reliability of the results.

The mail surveys provide additional data on the state level and make possible county-by-county estimates for the major producing states.

However, even in the case of the less costly mail surveys, a major consideration is keeping the survey reporting burden on farmers to a minimum, Rolf adds. Expanding the survey samples would mean more farmers receiving questionnaires more often.

Counting On Farmers

According to Rolf, one of the best and least expensive ways to increase the accuracy of the forecasts depends on farmers themselves. What that involves is a better response rate from the sample of farmers selected for each survey.

Crop surveys have always been entirely voluntary, and they couldn't work if farmers were inclined to pass the buck, Rolf says.

At the same time, of course, accuracy of responses is critical, but Rolf doesn't consider that a major problem. "We depend on the honesty of farmers and we believe in it," he says.

Final Checks On Accuracy

During the forecasting period, the Board publishes a measure of the accuracy of its forecasts for major crops based on a comparison of forecasts with the final estimates of actual production for previous years. Thus, the Board's track record is on record for producers and others who use the forecasts. The only question that remains is the accuracy of the estimates of actual production.

It's worth noting that these estimates are also subject to checks. At the end of each marketing year, the Board reviews all available check data on the previous year's production and makes any necessary revisions.

How accurate are the data that the estimates are checked against? That depends on the crop, according to Rolf.

With cotton, for example, ginnings are a matter of public record, as are exports and crushings for soybeans. The final estimate of production for these crops is quite accurate because of virtually complete check data.

Corn and other feed grains are more difficult to tie down because of heavy interfarm sales and on-farm use which make any market check data very incomplete.

However, even though private commercial and academic forecasters try to second-guess the Crop Reporting Board throughout the season, "they always take our figure for the final production estimate," Rolf notes.

of the changing conditions. Last July's corn production forecast, for example, was 14 percent off the mark, but it already indicated that a near-record corn crop would be coming to market in the fall.

More important, only a month later, the August forecast—which turned out to be well within 10 percent of the final estimate—indicated in what direction conditions were changing by pointing to a record-breaking harvest.

Farmers who acted on those indications, perhaps by forward contracting part of their crop to lock in July or August prices, probably got more for their corn than those who waited and sold later in the year when prices were lower.

Of course, there are many considerations in deciding whether to forward contract early in the season, sell at harvesttime or later, spread sales, store, feed to livestock, or even hedge in futures.

But if producers understand the limitations as well as the value of crop forecasts, they can use production forecasts through the growing season to help make these decisions on how and when to market their crops, Rolf explains.

Links In One Big Chain

Of course, that isn't the only role the crop forecasts play. The important forecasts are flashed across the country and around the world—not only to farmers but to those they count on to supply needed farm inputs as well as those who must buy, process, package, transport, market, and import agricultural products.

In a free enterprise system without centralized control of farming and industry, crop outlook information is considered essential. Without it, production and marketing sectors as large and scattered as the U.S. agriculture and food complex could not efficiently perform their interdependent roles.

Advance indications of upcoming supplies also avoid severe price adjustments that might otherwise result at harvesttime when crops actually hit the market. Crop estimates help stabilize prices, limiting price fluctuations during the crop season, according to Rolf.

Without the advance indications, the uncertainty itself would be enough to require additional precautions on the part of the food marketing sector that would add considerably to its costs and lower prices for producers. In fact, that's partly why so much is spent by major grain companies and other segments of the industry to forecast crop production a few days prior to release of USDA forecasts and develop their own market outlook.

However, while they may have the resources to do their own crop analyses, the individual farmer does not. Consequently, the Crop Reporting Board's estimates also help keep the marketplace in line.

"If it wasn't for some unbiased source, farmers would be dependent on the large grain buyers for information on the supply-demand situation," Rolf says.

Keeping Up With Key Reports

The crop estimating program is as regular as the seasons, but some producers may not know when to look for the major reports. Here are some key reports to watch for on corn, wheat, soybeans, and cotton (as well as small grains and other crops) as the crop season progresses:

- *Crop Production* (May 9 and June 11): Indicated area for harvest and forecasts of yield, production, and production by classes for winter wheat.
- *Acreage* (June 27): First estimates of actual plantings to corn, soybeans, all wheat, and cotton; first indications of acreage for harvest of corn for grain, all wheat, and soybeans for beans.
- *Crop Production* (July 11): First forecasts of yield and production of corn for grain and all wheat.
- *Crop Production* (August 11, September 11, and October 10): Updated estimates of acreage for harvest and forecasts of yield and production of corn for grain, all wheat, winter wheat (August and September), and durum and other spring wheat; first yield and production forecasts of soybeans and cotton in the August report and updated forecasts in the other two.
- *Crop Production* (November 10): Updated forecasts of harvested acreage, yields, and production of corn for grain, cotton, and soybeans.
- *Small Grains* (December 23): Acreage, yield, and production estimates for the 1979 all wheat, winter wheat, and durum and other spring wheat crops; indications of seeded acreage and forecast production by states and classes for 1981 winter wheat.
- *Crop Production, Annual Summary* (January 1981): Annual summary of acreage, yield, and production for 1980 crops.

To get on the mailing list for these reports, write the Crop Reporting Board, Room 0005-South, USDA, Washington, D.C. 20250. For details on estimates for other crops provided by these and other reports, ask for the *Crop Reporting Board Catalog, 1980 Releases*.

Off Press

Unless otherwise indicated in the listings below, publications in this section may be obtained by writing to ESCS Publications, Room 0054 South, USDA, Washington, D.C. 20250, or calling (202) 447-7255. Ask for publications by title and report number (in parentheses). Single copies are free.

Changes in Farm Production and Efficiency, 1978 (SB–628).

This publication contains all historical data for the major statistical series on farm production, production inputs, and efficiency. It also provides information for appraising changes in production, changes in farm inputs and practices, improvements in labor productivity, and progress in farm mechanization.

Income Growth in Nonmetro America, 1968-75 (RDRR-14). Herman Bluestone.

Income, employment and population increased faster in nonmetro than in metro counties during 1968-75. Few studies have focused on the sources of the faster nonmetro growth or on the effect that faster nonmetro growth is having on the gap in per capita income between metro and nonmetro areas. This study attempts to close these information gaps by quantifying changes during the 1968-75 period in the major components of total personal income. Comparisons are made among metro and nonmetro counties, among different regions, and among nonmetro counties grouped according to metro influence.

Major Uses of Land in the United States: 1974 (AER–440). H. Thomas Frey.

This study discusses the land area of the United States which is 2,264 million acres. The major uses of this acreage in 1974 were: cropland, 465 million acres; grassland pasture and range, 598 million acres; forest land, 718 million acres; urban, recreational and other special uses, 182 million acres; and miscellaneous land, 301 million acres. From 1969 to 1974, cropland, pasture and range land, and forests each decreased about 1 percent while special uses increased 6 percent.

Foreign Ownership of U.S. Agricultural Land (AER–447).

This report responds to section 5 of the Agricultural Foreign Investment Disclosure Act (AFIDA) of 1978 which requires the Secretary of Agriculture to: (1) analyze information on foreign ownership of U.S. agricultural land required to be reported under the act; (2) determine the impact of such ownership, particularly the effects on family farms and rural communities; and (3) determine the effectiveness and efficiency of the reporting requirements.

The Hired Farm Working Force of 1977 (AER–437). Gene Rowe.

About 2.7 million persons 14 years and over worked on farms for wages and salaries at some time during 1977. They were predominately young (56 percent under 25 years) and male (77 percent). The majority (72 percent) were whites, 11 percent were Hispanics, and 17 percent were blacks and others. Median education of workers 25 years and older was 10.1 years. Annual earnings in 1977 averaged $1,913 from 93 days of hired farm work and $1,352 from nonfarm employment. Approximately 191,000 persons were migrants in 1977.

History of Federal Water Resources Programs and Policies, 1961–1970 (MP–1379). Beatrice Hort Holmes.

This publication is a comprehensive account of major federal programs and policies relating to conservation and development of water and related land resources and to water pollution control in the years 1961 to 1970. It discusses most relevant federal legislation and the functioning of federal and federally assisted programs involving research, planning, construction, and regulation. Also discussed are national, regional, and local political issues related to water programs and policies; presidential, congressional, and agency policymaking processes; and origins of the environmental movement and its effects on water resources programs and policies.

Marketing U.S. Cotton to Domestic and Foreign Outlets in 1977/78: Practices and Costs (ESCS–79). Edward H. Glade, Jr., and Joseph L. Ghetti.

This study develops current estimates of the total costs by function involved in marketing U.S. cotton from major production areas to specific domestic and foreign locations during the cotton marketing season of 1977/78. These estimates, and other related data, are used for measuring changes in marketing costs, analyzing alternative means of increasing cotton marketing efficiencies, and evaluating the effectiveness of existing and proposed policies and programs relating to the total cotton-fiber system. This cost information is currently being incorporated into analytical models of the cotton industry to assess the effects of proposed cotton dust standards and to evaluate costs associated with alternative means for controlling dust.

A Financial Profile of Farmer Cooperatives in the United States (FCRR-23). Nelda Griffin.

The purpose of this study is to provide basic information on the financial structure of farmer cooperatives. The study covers all marketing, farm supply, and related service cooperatives in the United States. The various means farmer cooperatives use to accumulate funds to meet their capital needs are discussed. It also summarizes the financial structure of farmer cooperatives and analyzes amounts and sources of farmer cooperative borrowings, the nature and amount of equity capital, and the methods used for distributing annual margins and savings.

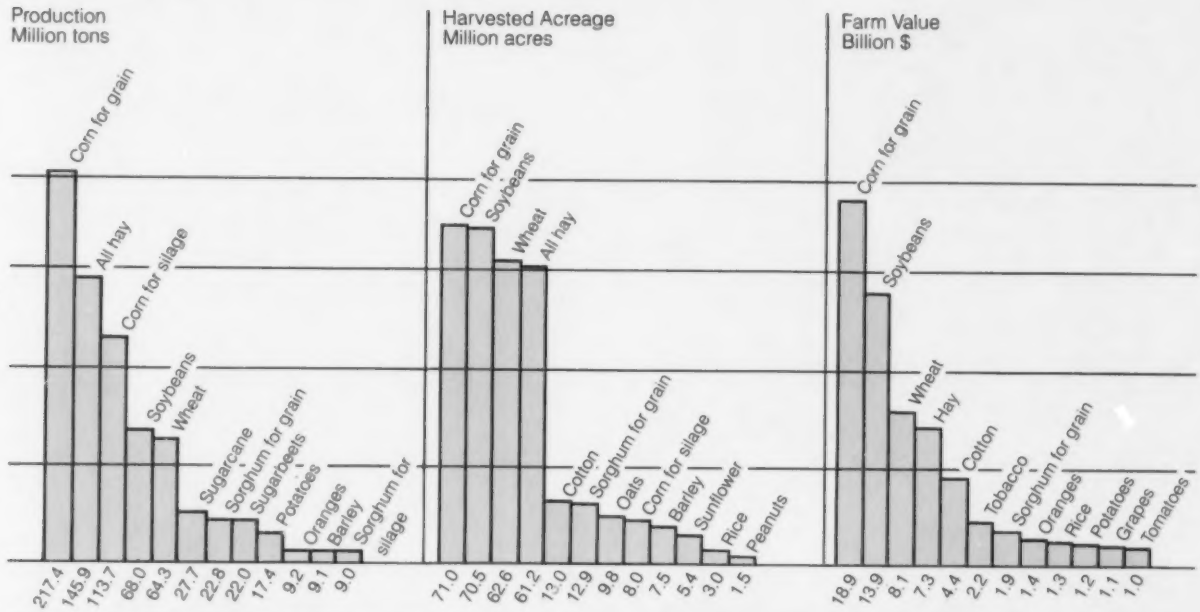
DEPARTMENT

Farmline Trends

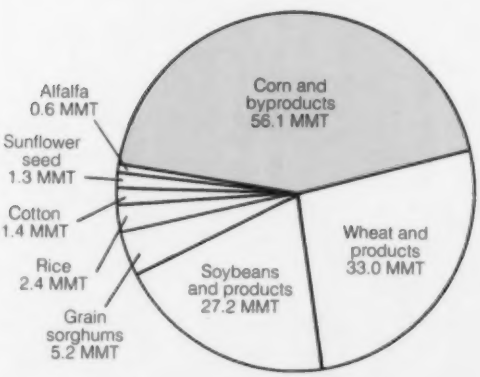
	1977 Annual	1978 Annual	1979 Quarters I	1979 Quarters II	1979 Quarters III	1979 Quarters IV	1979 Annual	1980 Quarters I	1980 Quarters II
									Forecast
				1967 = 100					
Farm Prices And Production									
Prices received by farmers	183	210	240	245	240	237	241	234	244
Livestock and products	175	216	263	265	248	251	257	255	266
Crops	192	203	213	222	233	222	223	211	220
Prices paid by farmers, all items	202	219	238	247	253	258	250	271	277
Production items[1]	208	226	249	259	263	268	260	283	290
Farm production	121	121	—	—	—	—	129	—	—
Livestock and products	106	106	—	—	—	—	107	—	—
Crops	130	131	—	—	—	—	144	—	—
				1967 = 100					
Retail Prices:									
Food	192	211	228	234	237	240	235	246	253
At home	190	210	227	233	235	237	233	243	251
Away-from-home	200	218	233	241	246	251	243	258	263
Farm Food Market Basket:									
Retail cost	179	199	217	224	224	225	223	231	239
Farm value	178	208	237	236	227	227	232	230	238
Spread	180	194	205	217	223	224	217	232	239
Farmer's share (percent)	38	39	41	40	38	38	39	38	38
Per Capita Food Use:									
All products	105	105	—	—	—	—	104	—	—
Animal-products[2]	103	102	100	100	101	105	101	101	101
Crop-products	106	107	—	—	—	—	106	—	—
				Billion dollars					
Farm Income:[3]									
Cash receipts	95.7	111.0	129.2	129.1	127.2	130.4	128.9	133.1	135.5
Livestock	47.4	59.0	69.8	67.8	65.2	66.2	67.2	69.3	68.5
Crops	48.2	52.1	59.4	61.3	62.0	64.2	61.7	63.8	67.0
Total gross farm income[4]	108.5	126.0	145.2	146.2	145.0	150.6	146.7	151.0	152.5
Production expenses	88.8	98.1	109.2	112.2	115.2	118.2	113.7	124.2	126.5
Net farm income	19.8	27.9	36.0	34.0	29.8	32.4	33.0	28.8	26.0
Trade:[5]									
Agricultural exports	24.0	27.3	8.2	7.7	7.9	8.2	32.0	11.0	9.5
Agricultural imports	13.4	13.9	3.9	4.1	4.4	3.8	16.2	4.4	4.5

[1] Includes interest, wage rates, and taxes.
[2] Quarterly data exclude fish products. [3] Quarterly data are seasonally adjusted at annual rates.
[4] Includes net change in farm inventories. [5] Based on October-September fiscal years ending with the indicated year; i.e. "1979" means Oct. 1978-Sept. 1979 and "1 1979" means Oct. 1978-Dec. 1978 (the first quarter of fiscal 1979).

Corn Tops 1979's Crops

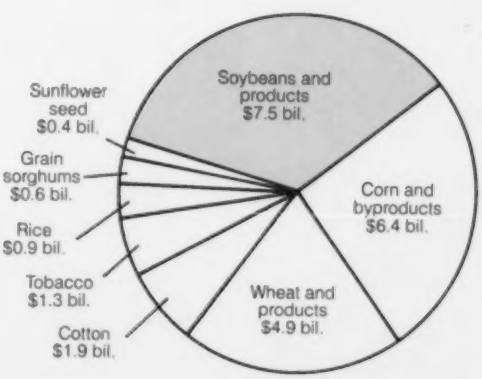


Corn Also Leads In Export Volume



Total Tonnage of Top 8 Export
Volume Crops: 127.2 Mil. Metric Tons
(Oct. 1978-Sept. 1979)

. . . But Soybeans Are No. 1 In Export Earnings



Total Earnings of Top 8 Export
Value Crops: $23.8 Billion
(Oct. 1978-Sept. 1979)

U.S. DEPARTMENT OF AGRICULTURE
ECONOMICS, STATISTICS, AND
COOPERATIVES SERVICE

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

To stop mailing ☐ or to change your address ☐ send mailing label on this magazine and new address to ESCS, Rm. 505 GHI, USDA, Washington, D.C. 20250

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR 101
BULK THIRD CLASS

951 38 00000501G-1
SERIALS DEPT RLSE

N D S U LIBRARY
FARGO ND 58105

☆ U.S. GOVERNMENT PRINTING OFFICE: 1980 O— 623-974/1550 REGION 3-1